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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/008,922	12/07/2001	Jun F. Zheng	884.599US1	4775

21186 7590 04/19/2004

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EXAMINER


ULLAH, AKM E

ART UNIT	PAPER NUMBER
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2874

DATE MAILED: 04/19/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Applicati n No.</b>	<b>Applicant(s)</b>	
	10/008,922	ZHENG, JUN F.	
	<b>Examin r</b>	<b>Art Unit</b>	
	Akm Enayet Ullah	2874	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 06 February 2004.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-35 is/are pending in the application.
- 4a) Of the above claim(s) 16-35 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

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***Detailed Action***

Applicant cooperation is requested in correcting any errors of which applicant may become aware in the specification.

***Status of the Application***

Claims 1- 35 are pending in this application. Six ways restriction was made in this application. Applicant elected Group I, claims 1-15 without traverse. Thus, claims 16 –35 are withdrawn from examination purpose.

If applicant is aware of any prior art or any other co- pending application not already of record, he/she is reminded of his/her duty under 37 CFR 1.56 to disclose the same.

If applicant provides prior art, he/she is requested to cite it on form PTO-1449 in accordance with the guideline set forth in MPEP 609.

***Drawings***

This application has been filed with informal drawings, which are acceptable for examination purposes only. Formal drawings will be required when the application is allowed.

***Rejection Under 35 USC 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chu et al (2003/0002797) in view of Jestel et al (5,396,328) and Hunsperger (3,952,265).

Figure 2A of Chu et al (2003/0002797) shows a multi-mode interference (MMI) having a small optical cavity or planar waveguide to pass optical signals from an input opening to one or more output openings. Note that optical input waveguide can be an optical or guide formed on a substrate or a transparent layer formed on the substrate (page 7, col.2, lines 4-7).

The use of an array detector optically coupled/combined along with this type of device is well known in this art as shown by Jestel et al reference.

The use of silicon and/or germanium in the intrinsic region is very elementary teachings in this art as is shown by Hunsperger.

It would have been obvious under 103 to use an array of detector optically coupled by Jestel et al and the use of silicon and/or germanium in the intrinsic region by Hunsperger with the Chu et al since, with all device being directed to a common use in the same environment, there is an implied suggestion for

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applying the teachings of one to the other. That is, the skilled worker who is pressured to have knowledge of the prior art, with these three references before him, would immediately recognize the desirability of employing the use of an array of detector and the use of silicon and/or germanium in the intrinsic region by Jestel et al and Hunsperger to the optical device of Chu et al, as claimed.

### ***Cited Prior Art***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Liedenbaum et al (USPAT NO. 5,701,396) and Weber et al (USPATNO. 6,084,992) are also cited show a typical waveguide photodetector system respectively.


### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Akm Enayet Ullah whose telephone number is 571-272-2361. The examiner can normally be reached on Monday through Wednesday from 5:30 am to 4:00 a.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rodney Bovernick whose telephone number is 571-272-2344, can be reached on Monday through Friday. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Akm Enayet Ullah  
Primary Examiner  
Art Unit 2874

AUllah  
April 14, 2004